

## PLASMA CLEANING

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The decontamination process, validated and implemented over the years, has been renewed by GiEsse Technology

thanks to the collaboration with the University of Trieste.

In fact, a new CLEANING WITH PLASMA REACTOR process has been introduced. This, carried out at the end of the

classic ultrasonic washes, allows an increase in the decontamination of the implant surface, reducing the risk of

peri-implantitis and favoring the osseointegration process.

The implants to be treated are placed in a reactor where they are exposed to the flow of an high-power plasma inert

gas (Argon). Thanks to the kinetic impact energy of the ions, atoms and molecules of contaminants and organic

components present on the surface of the implant are expelled and then removed thanks to the vacuum pump.

Compared to traditional cleaning treatments, plasma decontamination

does not require the use of cleaning liquids that could

leave residues or impurities that could alter the osseointegration process; moreover, the flow of plasma is able to penetrate into slots or areas (e.g. etching slots) which are difficult to reach by traditional cleaning liquids.

The tests of cellular contamination and proliferation conducted in collaboration with the University of Trieste have highlighted the excellent level of cleanliness of the surface and the reduced presence of pro-inflammatory contaminants obtained thanks to the adoption of this new decontamination technology. Furthermore, the surfaces treated with plasma have a high wettability and are more prone to promote cell adhesion.

The reproducibility of the treatment and the considerable possibility to control the process variables make it possible to exploit this type of treatment even with products of complex geometry, offering a very high consistency in terms of quality.